Values and Priorities Panel

Discussion Paper

ISSUE OVERVIEW

Conference participants all share an interest in discussing the opportunities and limitations of Governor Brown's goal of 12,000 MW of localized renewable energy. At the same time, stakeholders at this conference bring to the conversation varying perspectives on the 12,000 MW goal. Participants differ on a range of issues: How much priority should local renewables be given amidst other state energy priorities? Where and how should the 12,000 MW materialize? What guiding principles should shape the plan we develop to achieve 12,000 MW? How is success measured toward achieving this goal?

Like any policy making exercise, the discussion of how to vastly expand localized renewable energy must balance multiple perspectives and priorities. This panel will draw out a range of priorities and perspectives that participants bring to the conference. The panel *will not* identify the full range of stakeholders' values and priorities. Doing so in one conversation is impossible. Rather, the panel will attempt to highlight distinct core values that stakeholders bring to this discussion, identify where priorities may conflict, and explore where agreement and synergistic perspectives may exist. In doing so, the panel helps to build context for the more detailed policy conversations that will take place in the rest of the conference.

BACKGROUND

Governor Brown's call for 12,000 MW of localized renewable energy promises a range of important benefits in California's drive for clean energy: diversified renewable energy generation that helps to reduce our reliance on fossil fuels; greater consumer empowerment and flexibility; development of local energy resources in communities across California; and avoided costs of transmission. At the same time, concerns have

been raised about negative impacts if a major expansion of distributed generation is implemented incorrectly; inappropriately high energy prices; increased cost in distribution systems, and reduced energy reliability.

Clearly, 12,000 MW of new localized energy can materialize in myriad forms. The energy portfolio developed to achieve this goal could vary according to variables such as where the energy generation is developed (and the extent of geographic diversity), the portion of "behind the meter", customer-side installations versus utility-side, small (less than 5 MW) versus larger (up to 20 MW) installations, and the mix of technologies that comprise this portfolio.

How the state attempts to develop and shape the 12,000 MW impacts cost, economic value, reliability, flexibility, equity and economic opportunities. Accordingly, stakeholders have raised important questions that must be answered as the plan to reach this goal is developed. How can opportunities for localized renewable energy be expanded while containing costs? What policy objectives should drive decision making toward achievement of this goal? Does a set of guiding principles exist that can direct this policy making? As stakeholders come together to discuss the 12,000 MW goal, a baseline discussion about the underlying values we bring to this conversation can help advance more detailed conversation we have about such topics as financing, structuring and implementing regulations, incentives and programs.

PRIORITIES FOR LOCALIZED RENEWABLE GENERATION

Several priorities emerge for distributed generation among stakeholders who are participating in this conference. Presented below is a summary of *some key priorities* that have been raised since this policy goal was announced by Governor Brown this past fall. This paper's discussion of priorities is by no means inclusive of all valid perspectives that exist. Rather it intends to provide a survey of common perspectives on which priorities should drive expansion of localized renewables.

Contain Costs &Maximize Values: Capture the value of local renewable energy in a cost-effective way

One of the most common concerns raised about the rapid expansion of distributed generation is the cost of small scale renewable installations versus larger scale renewable generation (or even conventional power). These cost concerns lead some to argue that focus on expanding small-scale localized renewable energy is impractical and efforts should focus on larger localized renewables that are assumed to be cheaper per kilowatt hour and impose less system upgrade costs. Some suggest that the benefits

of local renewables must be weighed against the impacts this expansion will have on system reliability, energy prices and California's competitiveness. Furthermore, some suggest that any program to expand distributed generation should avoid cross-subsidization of DG by non-participating customers.

In contrast, other stakeholders argue that measuring current upfront costs of small scale renewable is a shortsighted and incorrect way to view economic impact. This perspective suggests that investment in local renewables should occur in order to build long-term value of the energy system. Rather than operating under a principle of driving to the lowest cost, programs should be conceived in a way that provides the best value and quality to the customer over the long term. From this view, any cost should be measured against the overall effect on customer bills, which could be limited due to the fact that small scale renewables will only supply a few percent of the state's overall electric power. This would shift focus from "least-cost renewable systems" to "highest value renewable systems." Ratepayer and equitability emphases should naturally follow. One perspective suggests that a narrow focus on cost, which looks only at the cents per kilowatt-hour of energy from current small scale renewables, should not be used to marginalize the development of local renewables to benefit communities with low income and people of color or to exclude less mature technologies.

One key conceptual difference between a focus on current upfront costs versus long term value is the timeframe each perspective takes into account. Those focused on current costs of small scale renewables make an assessment with a current and near-term focus, while those that focus on building value focus on the delivery economic benefits in the future.

Proponents of both lines of thought likely agree that appropriate policy tools should be applied to limit—to the extent possible— the cost of small scale renewable projects. This exercise includes addressing all the cost related barriers in designing policies and programs, such as governmental fees and complexity of interconnection approvals.

Project Viability: Build a framework to ensure the megawatts are built

One shared priority across a variety of stakeholders is the need to maximize the viability of renewable energy projects within the strategy to achieve 12,000 MW. In other words, our collective strategy must ensure that the megawatts will actually be developed. This lesson has been learned from past state energy programs through which some amount of approved projects remain unbuilt. Suggestions to ensure project

viability include taking special care to prevent gaming of the system(for example, by scrutinizing outlier low bids in a opaque reverse auction process where the bidder may not be able to make good on the offer, or by making the bid process public to discourage such bids in the first place), making interconnection and participation as simple as possible, and incorporating performance requirements and project development security deposits.

The question of viability is also raised for the 12,000 MW goal as a whole. Some have questioned the overall feasibility of the 12,000 megawatt goal within current economic constraints and other state energy mandates and targets. While perspectives differ on the feasibility of the 12,000 MW goal and how quickly it can be achieved, most would agree that more exploration is needed to understand how, where, and what size local renewables can be developed at an acceptable price to achieve the Governor's goal.

Economic Development: Leverage local renewable energy to maximize high quality jobs

Many stakeholders have become champions of renewable energy expansion primarily because of its potential to create high quality jobs throughout California. Indeed, elected leaders at all levels appear to prioritize jobs within the discussion of renewable energy. Many have suggested that bringing investment and local jobs into California communities should be the primary priority of the state's clean energy policy. This perspective prioritizes the training and hiring of qualified workers within emerging renewable sectors in areas such as equipment manufacturing and assembly, professional services, installation and system monitoring. Many stakeholders suggest that priority should be given within job development efforts to low-income communities and communities of color that have shouldered the burden of living adjacent to polluting fossil fuel industries for decades and have suffered economically, environmentally and physically as a result. Many stakeholders who prioritize job creation within energy policies suggest that the state should adopt specific goals and policies to ensure adequate and appropriate job creation.

Others point to the close match in skills between skilled construction workers and laborers who have lost employment in the recent housing crash and workers who build local renewables or upgrade homes and buildings to improve energy efficiency. Given that the return of jobs to the residential or commercial construction sector appears to be years away, these workers and their organizations are strongly motivated to support development of renewables in urbanized portions of the state. There is an additional tension between skilled workers who have lost pre-existing work in declining or stalled

industries, and those who suffer from historical and structural lack of jobs opportunities. Both look to expanding local renewable energy resources (whether through new generation or improving energy efficiency) as a path to prosperity and economic security.

While all stakeholders support the outcome of job growth within renewable energy expansion, many question whether it is realistic to build state energy policies to capture jobs. Some argue that companies benefitting from California's renewable energy targets are choosing to locate high -quality manufacturing jobs in other states without aggressive renewable energy goals and/or are procuring components abroad and that this trend is based on economic factors outside of state government's economic and energy policy control. An overlapping view suggests that more jobs do not always mean economic growth and the value of jobs created within California must be balanced with the potential for higher energy costs and resulting economic contraction.

Equity: Utilizing localized renewable to help California's most vulnerable residents

Building 12,000 MW of new localized renewable energy generation represents an investment of tens of billions of dollars in California's electric power infrastructure. Determining who benefits from this investment is a high priority among several stakeholders. In a time of high unemployment and strained social service budgets, for many, it should be an imperative to ensure that the investment of energy dollars centers in communities with the greatest economic and social needs.

Others suggest that while the transition to renewable energy can provide economic opportunity and address social inequity, poorly conceived policies toward these ends can result in unsustainable cost that jeopardizes the entire venture. Others go further and suggest that these social values will require policymakers to sacrifice other priorities such as cost containment.

Some stakeholders also invoke the term 'equity' in the context of ratepayers. The argument is that the 12,000 MW goal should be implemented in a way that benefits ratepayers who fund it and that it cannot be implemented in a manner wh whereby those customers installing DG receive rate relief at the expense of other ratepayers.

Concerns about 'equity' also suggest that state policy should provide opportunities for development of local energy in all of California's communities.

Lastly, some would argue that an equitable program must spread the burdens and benefits of local renewable energy programs in a fair manner among the customers of

all load serving entities – including both private and public utilities. Consistent with this view, all power providing entities should use common eligibility requirements and measurement. Such universal local renewable energy programs would be for the responsibility of all utilities in the state.

Reliability: Keep the lights on

Virtually all stakeholders agree that local renewables should not negatively impact the reliability of California's energy system. Many suggest that local energy projects can not only preserve system reliability, but also enhance it through congestion relief and other benefits. Others point to the challenge of adding large amounts of small, distributed and variable energy sources within a grid that is designed for an older pattern of centralized power sources that is designed without safety or monitoring measures for that type of highly variable energy resource. Some level of disagreement exists regarding how conservative energy planning needs to be. Many suggest that reliability must be clearly defined and transparently monitored by an independent third party. Others suggest that because technical challenges and costs associated with integrating DG vary widely, , the state's distribution systems must be more thoroughly studied to understand system operations, potential pitfalls, and mitigation measures in advance of establishing program goals and targets.

Sustainability: Creating a long-term market for all forms of distributed generation

Some stakeholders suggest that building a sustainable market for localized renewable energy should be the most important priority for the state's strategy. For many, ongoing and steady access to selling opportunities is the key to building successful renewable energy businesses and lowering the cost of installations. Toward this end, some advise that prices should be determined through competitive processes to achieve goals without unduly increasing customer costs and that avoiding a short-lived gold rush (e.g., Spanish FIT) is imperative. For long term sustainability, most agree that regulatory certainty is very important. From this view, programs must be given time to gain traction, rather than constantly tweaked or expanded.

Building competitive sectors: To nurture or not to nurture?

All agree with the ultimate goal of building competitive localized renewable energy sectors that achieve grid parity. (Grid parity is a measure that compares prices of a energy generating resource to a fixed standard – currently the price of power from a combined cycle natural gas turbine is used for this "market price referent.") However, stakeholders differ on what role state government plays in this effort. Some suggest the

need for government to identify and incubate emerging renewable technologies that promise to be sustainable and competitive in the long-term. From this view, untapped market segments may be provided research and development funds or other incentives that allow them to develop to commercial maturity. Others warn against "betting" on any particular technology and maintain that local renewables deployment should be based soLely on cost.

Environmental benefits: A virtuous by-product

One clear driving factor in the transition to clean energy is reducing pollution and, specifically, greenhouse gas emissions. Most stakeholders agree on the general importance of this outcome as well as the importance to California state policies considering the state's prioritization of AB 32. Some stakeholders raise the need to consider GHG impacts required to "firm" up DG from intermittent resources and question the difference in environmental benefits between large scale and small scale renewable energy.

POLICY DESIGN PRINCIPLES

Based on the high-level priorities discussed above that stakeholders have for any strategy to achieve 12,000 MW of DG, several agreed-upon design principles for DG policies and programs appear to emerge:

Simplicity

Many stakeholders suggest that policymakers should build clear policies and programs that are easy to understand and operate in order to build a sustainable market for small-scale renewable energy. Such simplicity would make implementing small-scale renewables easier for renewable developers and consumers alike. Many raise best practices in other parts of the world such as Germany's Universal Access Rights that simplify interconnection, paperwork, and contract terms. Others suggest that maximizing simplicity for consumers means allowing for program participation by community organizations, designing access to financing, and differentiating prices for various project sizes and technologies.

Allocate risk appropriately

Many argue that flexibility should be provided to allow the developer and end-user to structure agreements that meet each party's specific risk tolerance.. In this view,

programs should recognize the need to balance risk between the buyer and seller. Requiring 'skin in the game' can encourage better performance on both sides.

Customer Orientation

Many suggest that programs should be structured to benefit the consumers of energy. Many define enhanced customer orientation as providing attractive opportunities for individual consumers—from small residential to large commercial customers— to generate their own electricity. Some stakeholders argue that the DG programs must be available to owners and renters at a cost competitive price while providing a savings over time.

Certainty and enforceability

Another design principle that gains widespread support is providing regulatory certainty by ensuring the clarity and consistency of any rules or programs that are developed. Such programs should be enforceable and have benchmarks for deliverables that come with rewards for good behavior and penalties for bad behavior. Some suggest that by including and leveraging existing, successful programs, a well-known framework can reduce market and regulatory uncertainty.

Speed of implementation

Many suggest that time is of the essence for implementation of the 12,000 MW strategy. The opportunity to expand local renewable energies greatly benefits from leveraging time-limited funding opportunities, such as the federal tax credits.

BALANCING VALUES, PRIORITIES AND INTERESTS

One key challenge for state policy makers is how to balance the multiple legitimate priorities that exist in designing a cohesive strategy to expand localized renewable energy. Beginning to identify where commonalities may exist among priorities can help build support for specific strategic approaches to expanding localized renewables. Provided below are guiding principles for a DG system that may be shared among a broad range of stakeholders.

The strategy to meet the 12,000 MW goal should:

- aim to create the greatest economic benefit at the least cost
- ensure maximum project viability for localized renewable energy installations

- build long-term sustainability through development of a competitive market for localized renewables
- enhance, not threaten, grid reliability
- provide jobs and economic development—with special focus on disadvantaged populations—in a manner that complements core energy program design
- support expansion of small-scale renewable sectors that ultimately stand on their own economic merits

In order to achieve these priorities, the 12,000 MW strategy should include policies and programs that are:

- simple for developers, providers and consumers alike
- consistent over time, so that markets for these renewable technologies can develop
- successful in distributing risk appropriately between consumers and developers
- fully enforceable across programs and jurisdictions
- designed to take advantage of funding resources; many of which are time limited

DEFINING SUCCESS

One of the strengths of the 12,000 MW goal is that it is a tangible, measurable target for state policy makers. Measuring progress toward this target should be clear enough, although it requires a very clear definition of what counts toward the megawatt goal (only "new" local renewables? As of when?) Beyond the number of megawatts created, what should be other metrics that define success? Panelists have suggested that metrics could include: jobs created on local renewable energy projects, investments made, carbon emissions offset, the average cost of new generation, and overall customer satisfaction. Some suggest that benefits should be measured against the benefits of other forms of energy generation such as large-scale renewables.

A well designed strategy for the 12,000 MW goal will identify success metrics from the outset in order to measure progress toward meeting key objectives. These clear metrics will keep the state on course and allow for course correction when necessary.

KEY QUESTIONS TO ASK

- How are we defining the 12,000MW goal? Our definition of what energy counts toward the goal impacts what priorities are achieved. Which projects are eligible to be counted as part of this goal? Are we crediting early action and existing projects within utility portfolio that meet program eligibility requirements?

- How aggressive should this goal be and how quickly should DG be expanded? One participant preaches patience: "Clean energy transformation underway in California is an evolution not a revolution. What are alternatives? If analysis determines the goal does not make economic sense today, should longer timelines be permitted? Should the goal be adjusted? What are other customer cost protections?
- How goes then goal interact with other energy goals such as energy efficiency? How can program impacts (DG and other energy programs), on an integrated basis, be evaluated?
- How should existing programs and targets be included and leveraged?